In the Claims

1. (Currently Amended) A metallization stack in an integrated MEMS device, the metallization stack comprising:

a substrate having an electrically conductive structure;

a field oxide, having a contact hole therein, formed over said substrate;

a silicide layer formed in said contact hole of said field oxide;

a titanium-tungsten layer, formed directly on said silicide layer, to operatively contact said electrically conductive structure in said substrate; and

a platinum layer;

said platinum layer having a first portion formed directly on ~~over~~ said titanium-tungsten layer;

said platinum layer having a second portion formed directly on said field oxide;

said silicide layer, said titanium-tungsten layer, and said platinum layer, together, forming an electrical connection to said electrically conductive structure.

2. (Previously Presented) The metallization stack of claim 1, wherein said electrically conductive structure is an active silicon element.

3. (Previously Presented) The metallization stack of claim 2, wherein said contact hole exposes a portion of a surface of said substrate at a bottom of said contact hole and said silicide layer is formed only on the exposed portion of the surface of said substrate.

Claim 4 (Cancelled)

5. (Previously Presented) The metallization stack of claim 1, wherein the integrated MEMS device is an optical MEMS.

6. (Previously Presented) The metallization stack of claim 1, wherein the integrated MEMS device is a Bio-MEMS device.

7. (Previously Presented) The metallization stack of claim 6, wherein said platinum layer forms a corrosive resistant electrode.

8. (Previously Presented) The metallization stack of claim 7, wherein said electrically conductive structure is an interconnect of the Bio-MEMS device.

Claims 9-29 (Cancelled)

30. (Previously Presented) The metallization stack of claim 1, wherein said silicide layer is a platinum silicide layer.

Claim 31 (Cancelled)

32. (Currently Amended) A metallization stack in an integrated MEMS device, the metallization stack comprising:

a substrate having an electrically conductive structure;

a field oxide formed over said substrate;

a silicide layer formed on said field oxide;

a titanium-tungsten layer, formed directly on said silicide layer, to operatively contact said electrically conductive structure in said substrate; and

a platinum layer;

said platinum layer having a first portion formed directly on ~~over~~ said titanium-tungsten layer;

said platinum layer having a second portion formed directly on said field oxide.

33. (Previously Presented) The metallization stack of claim 32, wherein said electrically conductive structure is an active silicon element.

Claim 34 (Cancelled)

35. (Previously Presented) The metallization stack of claim 32, wherein the integrated MEMS device is an optical MEMS.

36. (Previously Presented) The metallization stack of claim 32, wherein the integrated MEMS device is a Bio-MEMS device.

37. (Previously Presented) The metallization stack of claim 36, wherein said platinum layer forms a corrosive resistant electrode.

38. (Previously Presented) The metallization stack of claim 37, wherein said electrically conductive structure is an interconnect of the Bio-MEMS device.

39. (Previously Presented) The metallization stack of claim 32, wherein said silicide layer is a platinum silicide layer.

40. (New) An integrated MEMS device, comprising:

a substrate having a first electrically conductive structure and a second electrically conductive structure;

a field oxide, having a first contact hole therein and a second contact hole therein, said field oxide being formed over said substrate;

a first silicide layer formed in said first contact hole of said field oxide;

a second silicide layer formed in said second contact hole of said field oxide;

a first titanium-tungsten layer, formed over said first silicide layer, to operatively contact said first electrically conductive structure in said substrate;

a second titanium-tungsten layer, formed over said second silicide layer, to operatively contact said second electrically conductive structure in said substrate; and

a continuous platinum layer;

said continuous platinum layer being formed over said first and second titanium-tungsten layers.

41. (New) The integrated MEMS device of claim 40, wherein said first electrically conductive structure is an active silicon element.

42. (New) The integrated MEMS device of claim 40, wherein said first contact hole exposes a first portion of a surface of said substrate at a bottom of said first contact hole, said first silicide layer is formed only on the exposed first portion of the surface of said substrate, said second contact hole exposes a second portion of a surface of said substrate at a bottom of said second contact hole, and said second silicide layer is formed only on the exposed second portion of the surface of said substrate.

43. (New) The integrated MEMS device of claim 40, wherein said continuous platinum layer forms a corrosive resistant electrode.

44. (New) The integrated MEMS device of claim 40, wherein said continuous platinum layer is an interconnect of the integrated MEMS device.

45. (New) The integrated MEMS device of claim 40, wherein said silicide layers are platinum silicide layers.

46. (New) An integrated MEMS device, comprising:

a substrate having a first electrically conductive structure and a second electrically conductive structure;

a field oxide, having a first contact hole therein and a second contact hole therein, said field oxide being formed over said substrate;

a first silicide layer formed in said first contact hole of said field oxide;

a second silicide layer formed in said second contact hole of said field oxide;

a continuous titanium-tungsten layer, formed over said first silicide layer and said second silicide layer, to operatively contact said first and second electrically conductive structures in said substrate; and

a continuous platinum layer;

said continuous platinum layer being formed over said continuous titanium-tungsten layer.

47. (New) The integrated MEMS device of claim 46, wherein said first electrically conductive structure is an active silicon element.

48. (New) The integrated MEMS device of claim 46, wherein said first contact hole exposes a first portion of a surface of said substrate at a bottom of said first contact hole, said first silicide layer is formed only on the exposed first portion of the surface of said substrate, said second contact hole exposes a second portion of a surface of said substrate at a bottom of said

second contact hole, and said second silicide layer is formed only on the exposed second portion of the surface of said substrate.

49. (New) The integrated MEMS device of claim 46, wherein said continuous platinum layer forms a corrosive resistant electrode.

50. (New) The integrated MEMS device of claim 46, wherein said continuous platinum layer is an interconnect of the integrated MEMS device.

51. (New) The integrated MEMS device of claim 46, wherein said silicide layer is a platinum silicide layer.

52. (New) The integrated MEMS device of claim 46, wherein said first and second silicide layers are in a same vertical plane, formed during a same processing step, and are interconnected.

53. (New) An integrated MEMS device, comprising:

a substrate having a plurality of electrically conductive structures;

a field oxide, having a plurality of contact holes therein, each electrically conductive structure having a contact hole associated therewith;

said field oxide being formed over said substrate;

a plurality of silicide layers, each contact hole having a silicide layer associated therewith and formed therein;

a plurality of titanium-tungsten layers, each silicide layer having a titanium-tungsten layer associated therewith and formed thereover; and

a continuous platinum layer;

said continuous platinum layer being formed over said plurality of titanium-tungsten layers.

54. (New) The integrated MEMS device of claim 53, wherein said continuous platinum layer forms a corrosive resistant electrode.

55. (New) The integrated MEMS device of claim 53, wherein said continuous platinum layer is an interconnect of the integrated MEMS device.

56. (New) The integrated MEMS device of claim 53, wherein said silicide layers are platinum silicide layers.

57. (New) The integrated MEMS device of claim 53, wherein said plurality of silicide layers are in a same vertical plane, formed during a same processing step, and are interconnected.

58. (New) An integrated MEMS device, comprising:

a substrate having a plurality of electrically conductive structures;

a field oxide, having a plurality of contact holes therein, each electrically conductive structure having a contact hole associated therewith;

said field oxide being formed over said substrate;

a plurality of silicide layers, each contact hole having a silicide layer associated therewith and formed therein;

a continuous titanium-tungsten layer formed over said plurality of silicide layers; and

a continuous platinum layer;

said continuous platinum layer being formed over said continuous titanium-tungsten layer.

59. (New) The integrated MEMS device of claim 58, wherein said continuous platinum layer forms a corrosive resistant electrode.

60. (New) The integrated MEMS device of claim 58, wherein said continuous platinum layer is an interconnect of the integrated MEMS device.

61. (New) The integrated MEMS device of claim 58, wherein said silicide layers are platinum silicide layers.

62. (New) The integrated MEMS device of claim 58, wherein said plurality of silicide layers are in a same vertical plane, formed during a same processing step, and are interconnected.